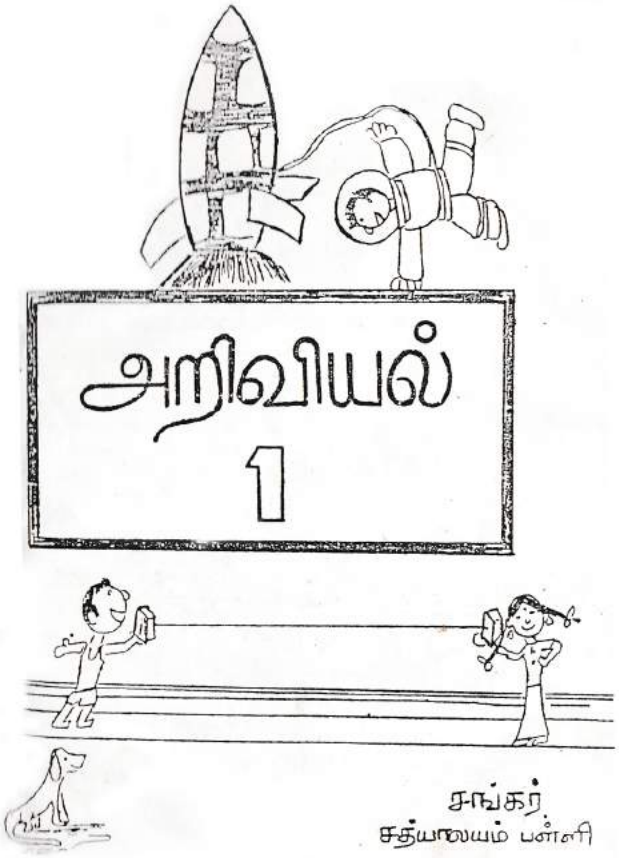
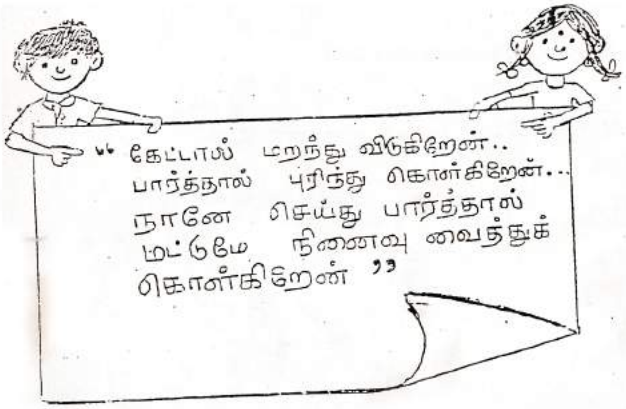
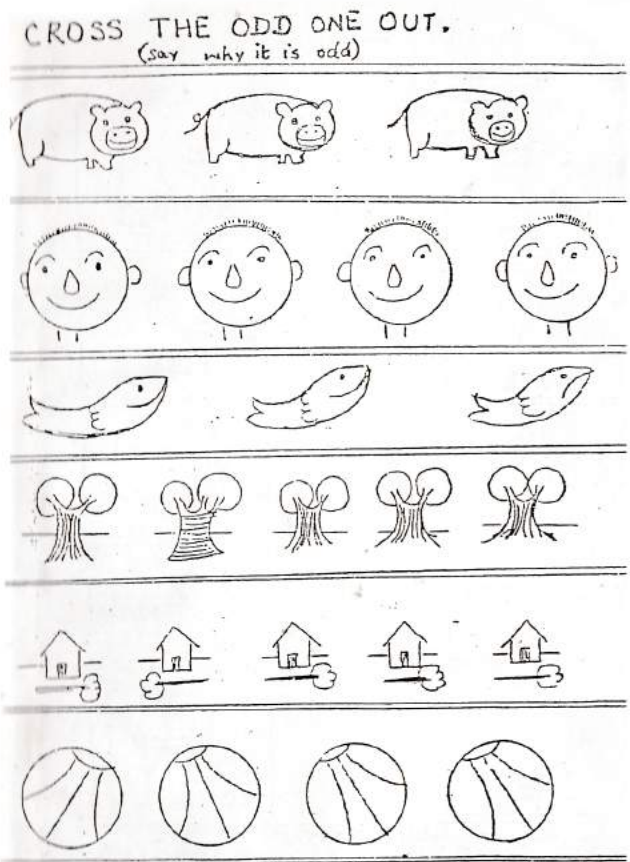


அறிவியல்
1

சாங்கர்
சத்யாலயம் பள்ளி

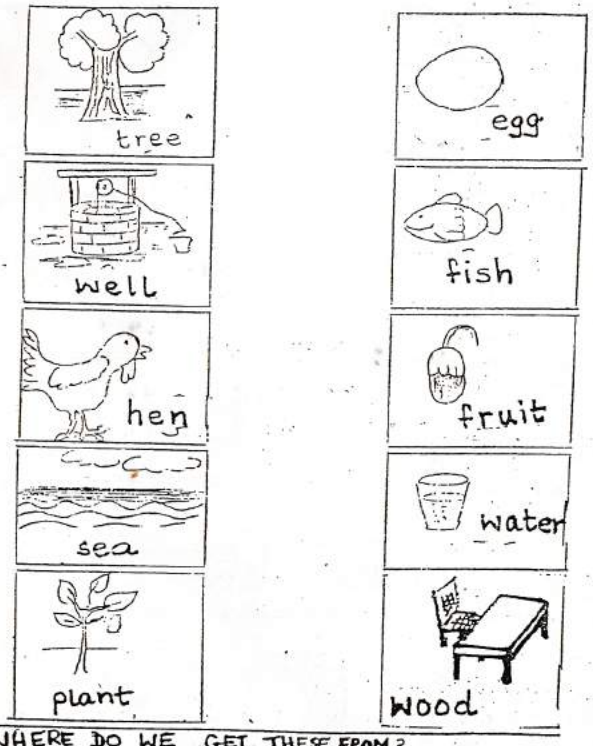




To make the children cross the odd one out and say why it is odd, in simple sentences.

2

MATCH



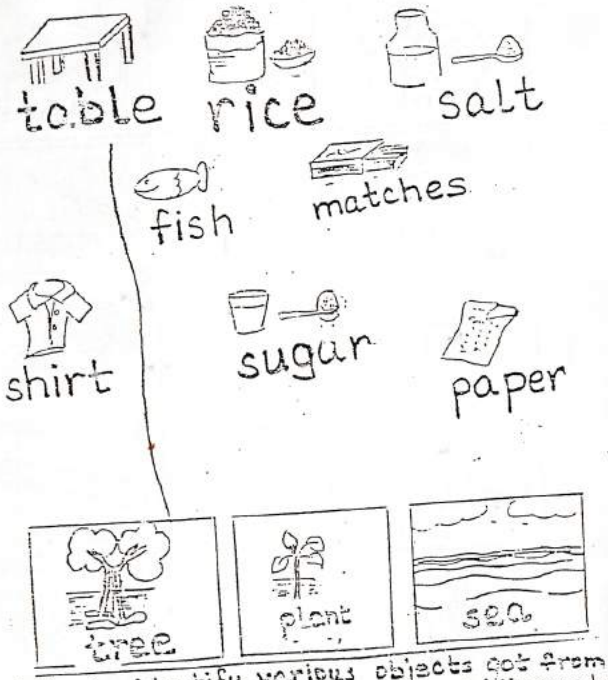
WHERE DO WE GET THESE FROM?
"We get eggs from hens." "We get fish from the sea" etc. The children are made to say this for each picture pair. Matching can also be done with ~~the~~ cards where the words alone are written.

MATCH

WHAT DO WE NEED THESE FOR?
"We need a pencil to write in a book"...etc. The children say this for each picture pair, then ma with cards where the words alone are wr

4

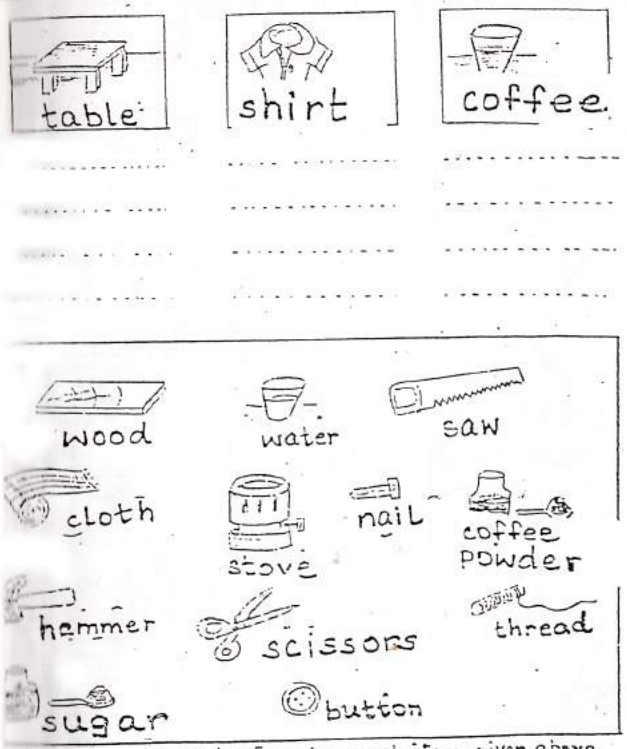
HOW DO WE GET THESE?



Ask to identify various objects got from a tree or the sea. Encourage them to discover how these objects are made. Discussions, picture classes, and other aids must be used to explain about objects they do not know about. Encourage questions about the pictures they see.

5

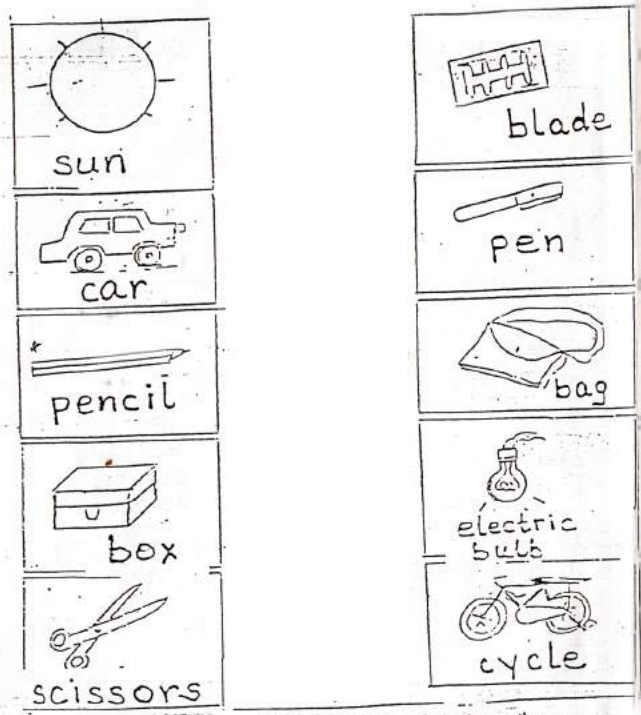
WHAT DO WE NEED TO MAKE THESE ?



Materials needed to make each item given above, and ask how these materials need to be used to get the above items.

6

MATCH

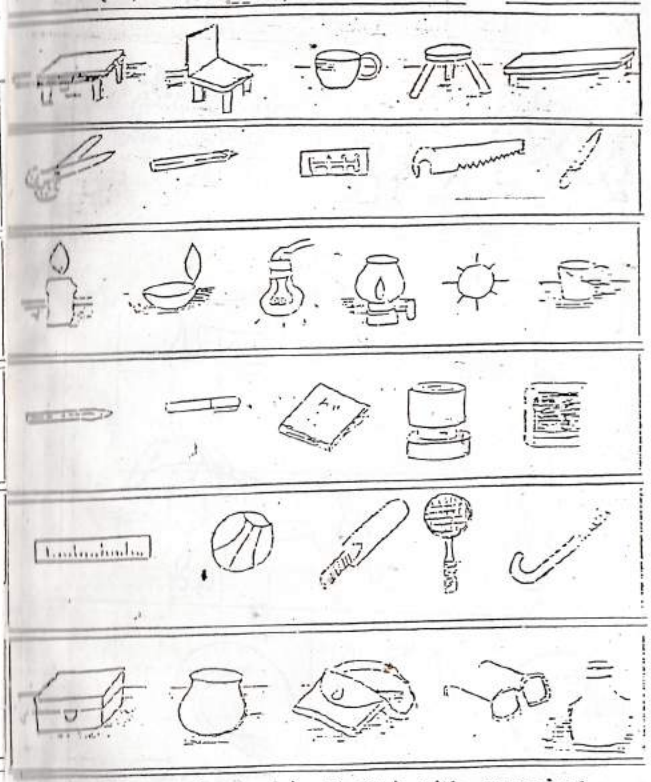


Match the pairs and make the children say how they are paired; the common characteristic they share e.g. "the sun gives us light, the electric bulb also gives us light." etc... Match with cards without pictures.

7

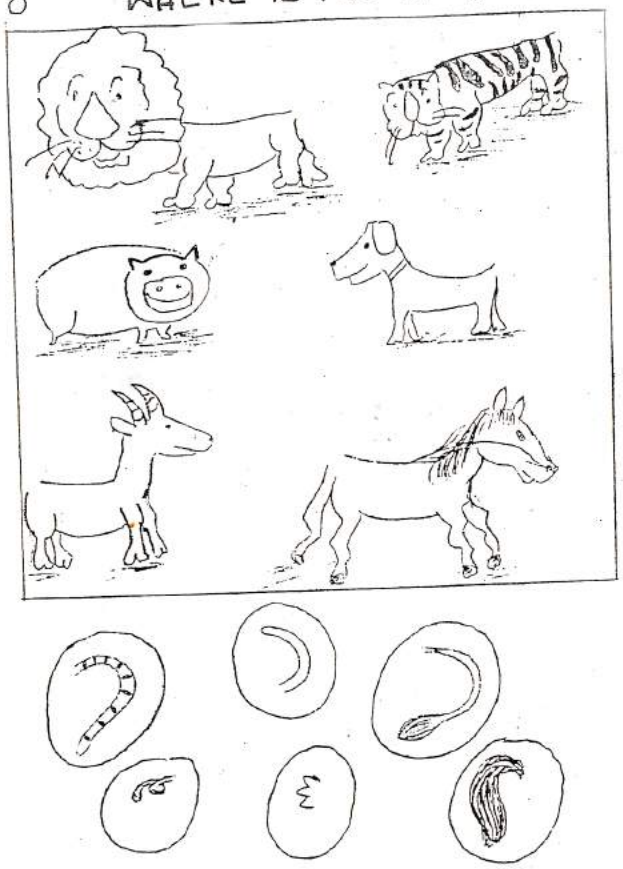
CROSS THE ODD ONE OUT.

(say why it is odd)

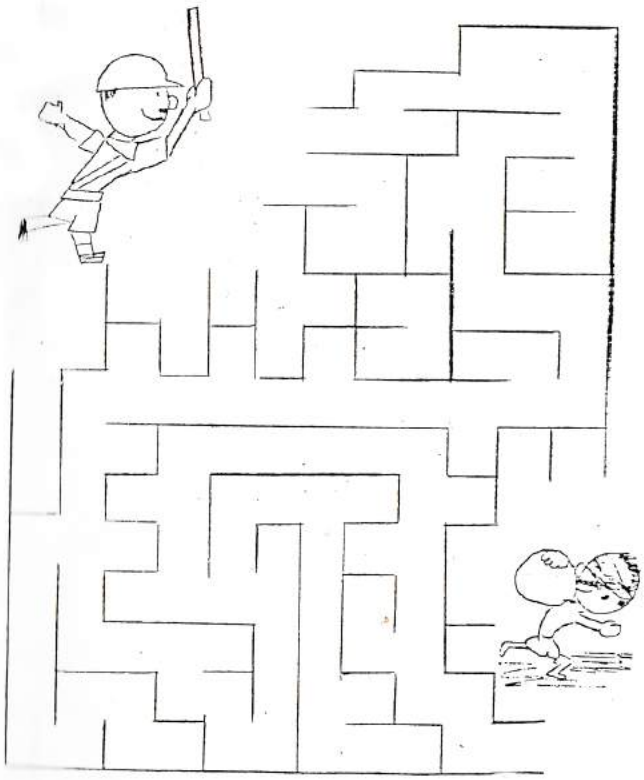


Say why it is the odd one out after crossing the one which is odd.

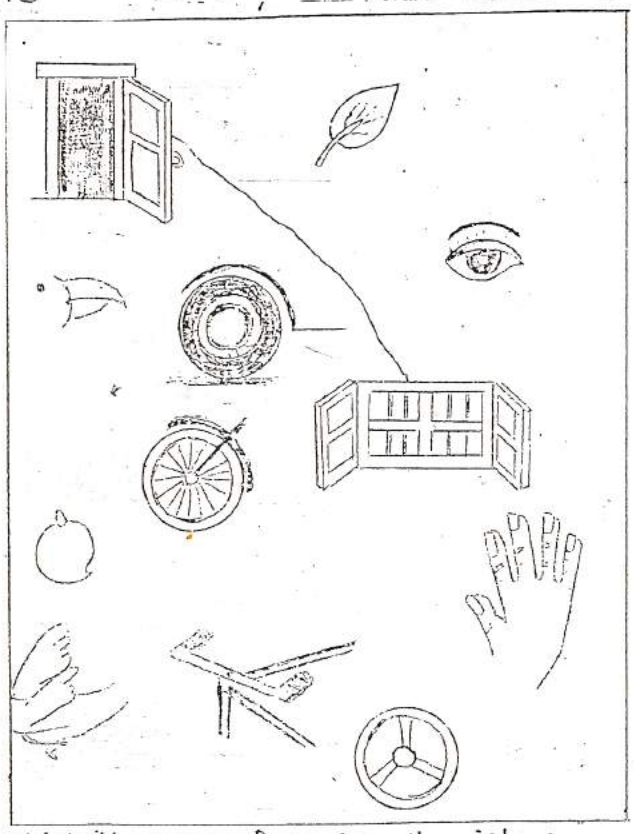
WHERE IS THE TAIL?



FIND THE WAY TO CATCH THE THIEF

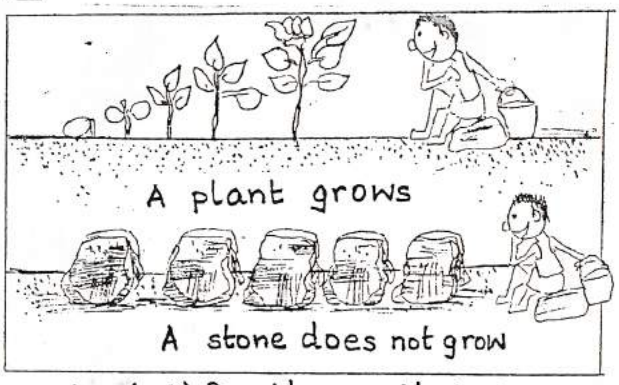


10 MARK THE PAIRS



Ask the reasons for pairing the pictures.

WILL IT GROW?



Mark a (✓) for those that grow.
Mark a (x) for those that donot grow.

boy	✓		sun		
fish			moon		
pot			pen		
hills			rat		
cat			car		

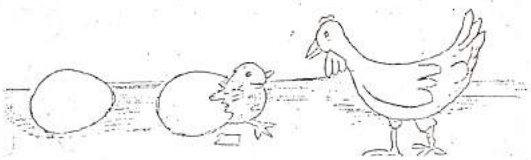
Ask to identify any growing object that they can see around. Similarly with objects that do not grow. Divide into 2 groups with cards where only the words are written.

Date	No. of leaves	Height.

he children work in groups. Each group takes care of one lant and observes its growth. After the seeds erminate, they measure the height each day for 10 ays. They are shown how the measuring is done. ey record the details of growth individually n their books, in a tabulated form.

14

YOUNG ONES? OR EGGS? WHAT DO THEY GIVE BIRTH TO?



Hens lay eggs.

Dogs give birth to young ones..

A stone does not lay eggs.
A stone does not give birth to young ones.

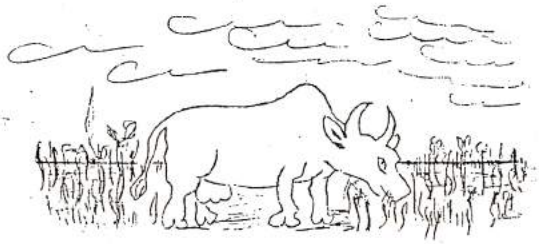
GIVES BIRTH TO YOUNG ONES? (♀)
LAYS EGGS (o)
NO EGGS, NO YOUNG ONES (x)

15

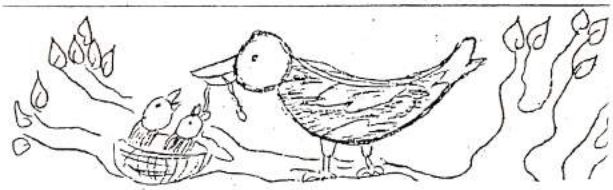
fish	o	car	
dog		crab	
pen		lizard	
cat		fly	
elephant		pot	
rat		bird	
feather			

To write these words on cards (without pictures) and make the children divide them under the heads given above. To demonstrate the function of the various parts of an egg by actually breaking one; to discuss the differences between egg-laying and other animals; to discuss how the young are formed inside an egg. Collect eggs of many kinds.

DOES IT FEED ON ITS OWN?



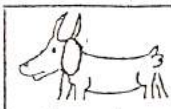
A cow eats grass.



A bird eats insects and worms

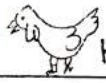
A stone does not eat.

WHAT DO THEY EAT?

 Goat	lion	bird	man

Leaf egg fruit fly

goat man bird

 hen snake grass.

To discuss about the what different animals eat. T debate about what the animals given above, eat, fro the list given below. To write here after such a discussi To discuss about food habits of animals in general an herbivorous, omnivorous, carnivorous ... to teach the meaning of these words & describe the relationship betw food habits and structure of the body.

18 DO THEY EAT ON THEIR OWN?

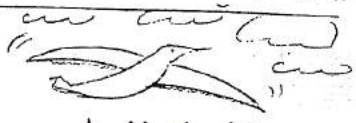
YES (✓) NO (×)

fish	✓	crab	.....
car	.....	plant	.....
pot	.....	stone	.....
elephant	.....	pen	.....
lizard	.....	man	.....
cow	.....	sun	.....
moon	.....	lion	.....
cat	.....	hills	.....

Ask what each of these eat and then the children mark yes or no against the words. Here they are expected to attempt to read on their own. They may refer to the pictures given in the previous pages to help in self-reading which may be permitted.

DO THEY MOVE ON THEIR OWN? 19

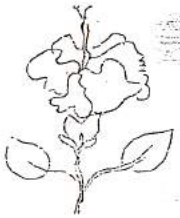
A boy runs



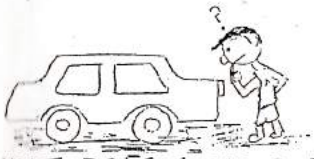
A bird flies

A fish swims

A snake creeps



A flower blooms



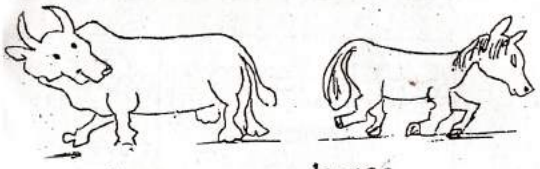
WHAT DOES A CAR DO? CAN IT MOVE ON ITS OWN

20 DO THEY MOVE ON THEIR OWN ? YES→(✓) NO→(x)

fish	clouds .....
car	
cat	sea .....
lizard	
plant	river .....
tree	
bird	stars .....
sun	
moon	rain .....

If rain, sun, moon etc. are marked as objects that can move on their own, the answers need not be explained or corrected. The clarity to understand this and its association with 'life' will come naturally at a later stage.

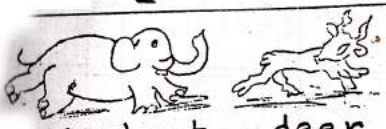
WHICH IS FASTER ? 21



cow horse .....

cat rat .....

dog man .....



elephant deer .....

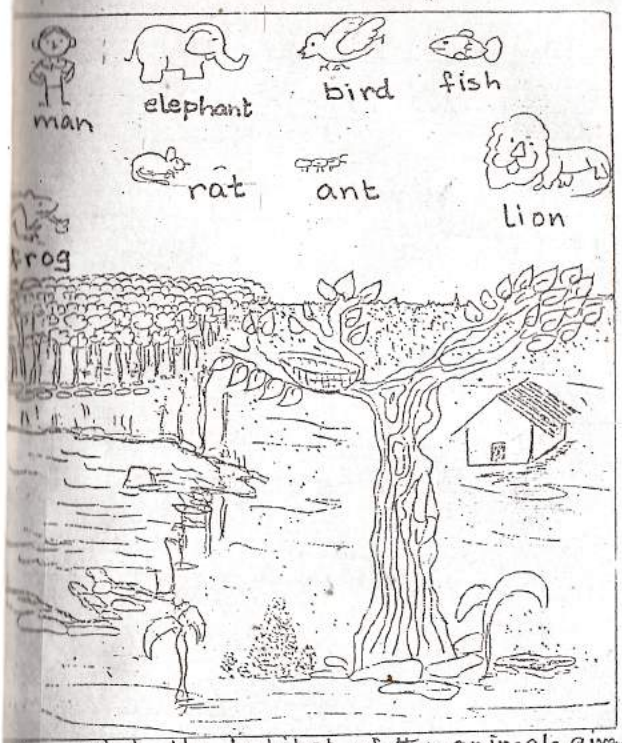
To discuss the physical capabilities of various animals, discuss also the varied physical features and their capacity for speed i.e. the relationship between the 2 aspects. Also show pictures of animals they are not familiar

22 ARE THESE LIVING THINGS?

	GROW	REPRODUCE	EAT	MOVE	LIVING?
stone	X	X	X	X	X
cow					
plant					
pot					
man					
bird					
car					
sun					
moon					

To say aloud "A stone does not grow, a stone does not reproduce, it does not eat .... etc for all the words and then. to teach them how to use the earlier tabulations as a guide to fill this.

WHERE DO THEY LIVE? 23

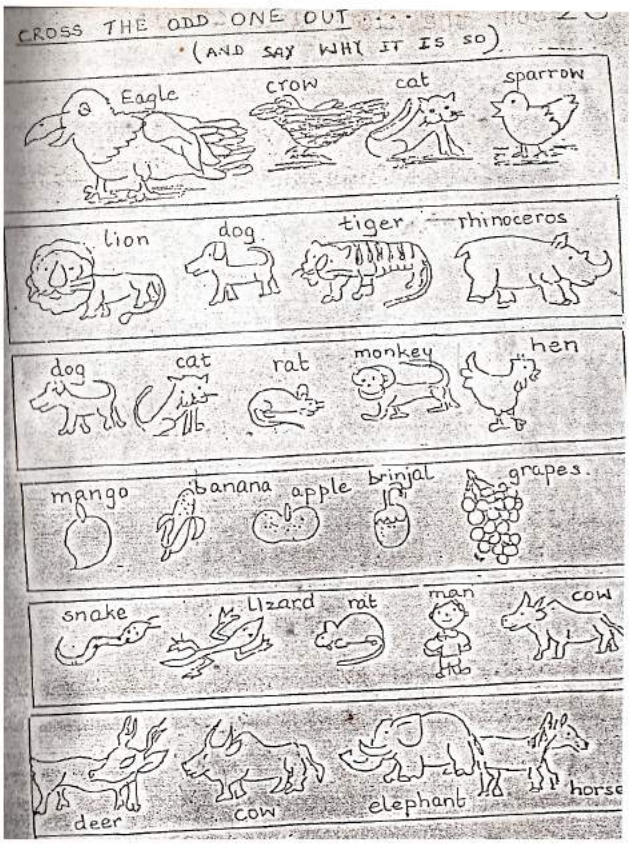


To match the habitat of the animals given above. To discuss the relationship between, habitat, physical features, food habits etc. To show pictures of different habitat and help to understand these relationships better.

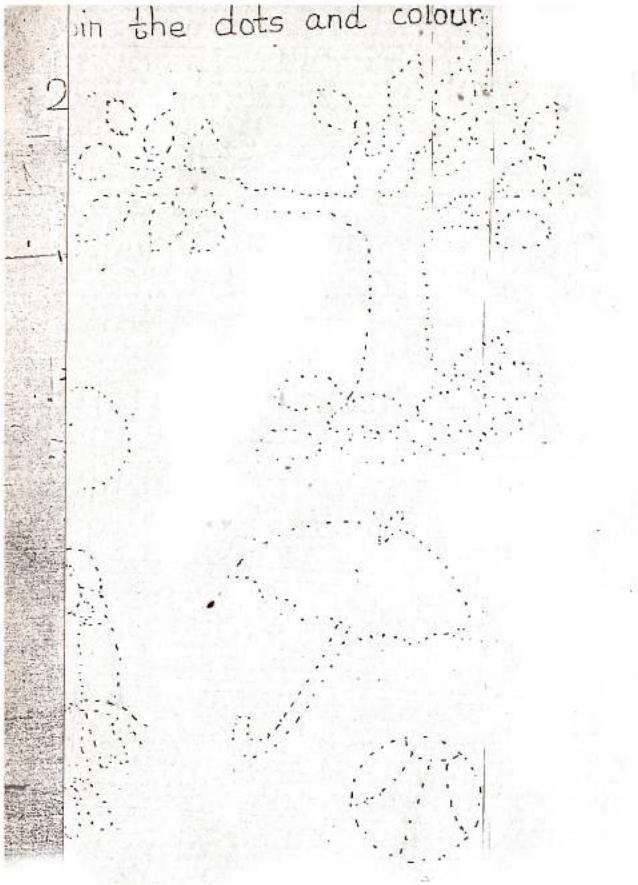
24 Additional activities

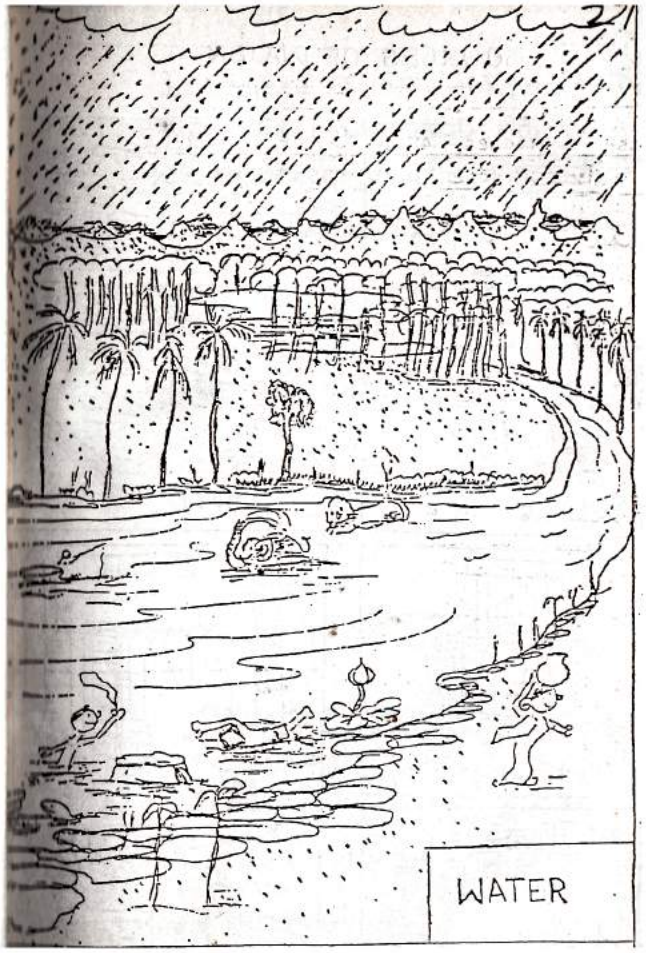
These activities given below must be compulsorily done by the teacher.

1. Collect pictures of various animals and put them up in class as a chart, with their names written.
2. Collect different kinds of leaves and display - collecting, labelling & chart work to be done by the students.
3. Make a display chart of various kinds of seeds.
4. Showing the germination of different kinds of seeds, by keeping them in plastic covers with wet cotton inside.
5. Showing and explaining with the aid of pictures, the different kinds of houses people in different climatic conditions build.
6. Observe the various physical features of animals like spiders, ants, earth worms, snails etc - bring them to class & discuss why they are so made.
7. It would be ideal to have a fish tank with the different kinds of fishes - kept in the class room.
8. Collection of different kinds of feathers.
9. Taking the students out on a study tour & observing different kinds of bees, their habits & their surroundings, to help better understanding.

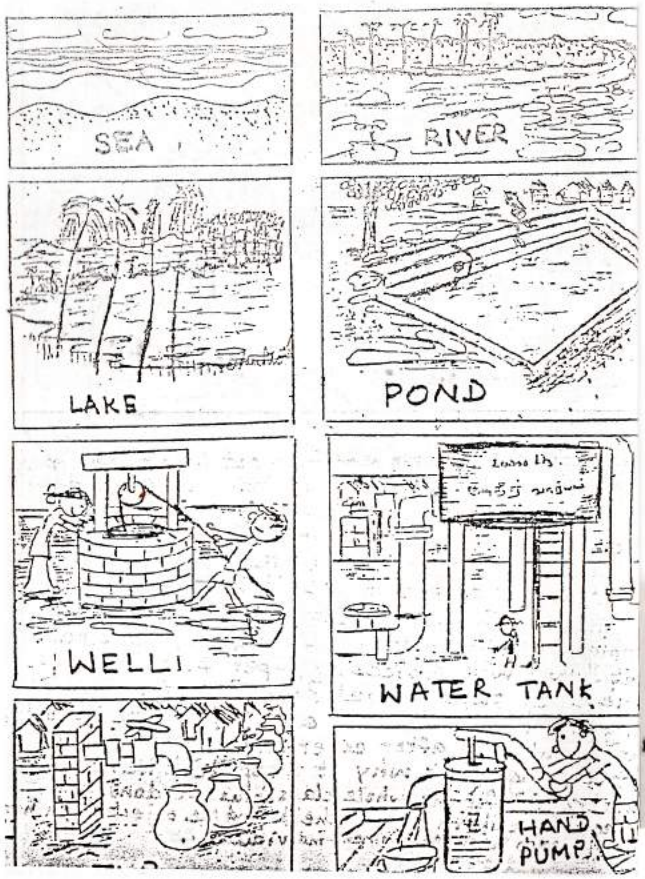


in the dots and colour





28 SOURCES OF WATER



QUESTIONS 2

1. Is there a river in your town ...
2. Do you have the sea in your town. ....
3. Which water do you drink ? ....
4. Which water do you bathe in? ....
5. Which water is cleaner ? ....
   ((pond, tap))
6. Which is bigger ....
   (lake sea)

To discuss about the different sources of water, and ask about where the water comes from - to these so To explain in a very simple way about - how it rains, h rain is formed, why sea water salty etc To show pic Take on trips to different places - to get an underst of the sources of water. To help the children rea these questions and help them when they are need of it while answering them. Also encourag them to ask questions.

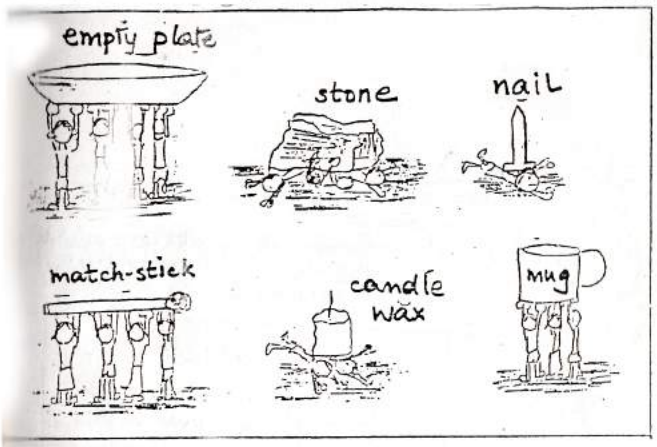
30 DOES IT FLOAT OR SINK ? ?

11

To guess whether the objects will sink (x) or float (✓) before actually doing the experiment.

Object	Guess	RESULT	Object	Guess	Result
nail			plate		
stone			cotton		
pencil			plate with water		
match-stick			mug.		
leaf			blade		
candle			mug with water		
rubber					

LOOK AT THE PICTURE AND DESCRIBE 31



question the children and find out what ideas they
m about why objects float or sink. With these ideas
a base explain very simply, using these pictures
a guide to understand why anything floats..(if
ater can support an object; then that object floats;
water cannot support it, then it sinks.) To lead on
om there with more questions to keep them.
uiring constantly - eg. a plate floats, but a nail
sn't - why? will a piece of paper float? will a
et piece of paper float? why?.. and so on. It
very important to make a guess before actually
ying it out and after experimenting to find an
derstanding about why it happened. Here, a
monstration for the whole class must be done with
y object. The children wish to check, and the objects given he
en they may do the experiment individually.

SOLUBLE or INSOLUBLE

After guessing whether the objects are soluble or not they may do the experiment individually.

SOLUBLE (✓) INSOLUBLE (X).

OBJECT	Guess	Result
salt		
mud		
tamarind		
coffee powder		

OBJECT	Guess	Re
sugar		
cotton		
candle wax		
jaggery		
chilli powder		

Help to read the words; a general class demonstration; then children do it individ after writing down their guesses for each object; tasting a bit of the solution; to inq why some objects dissolve and some dont. and to debate and clarify about this concept.

VOLUME

No. of the container	Volume Guess	Result
1	.....	.....
2	.....	.....
3	.....	.....
4	.....	.....

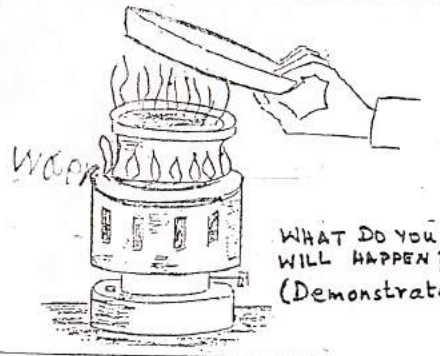
Take four containe different volumes.

How many litres will each of them hold. a guess.

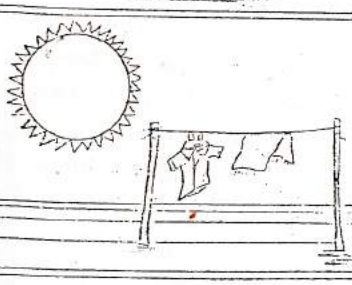
Take a one litre meas jar and check the g you have made.

First the different containers may be kept in the ascending order of their volumes. Then, ask how the order may be checked, if it is right or wrong. use one of the small containers to see whether it is more or less than the other) After this kind of assessment is don the above experiment with a one litre container may b done.

STEAM



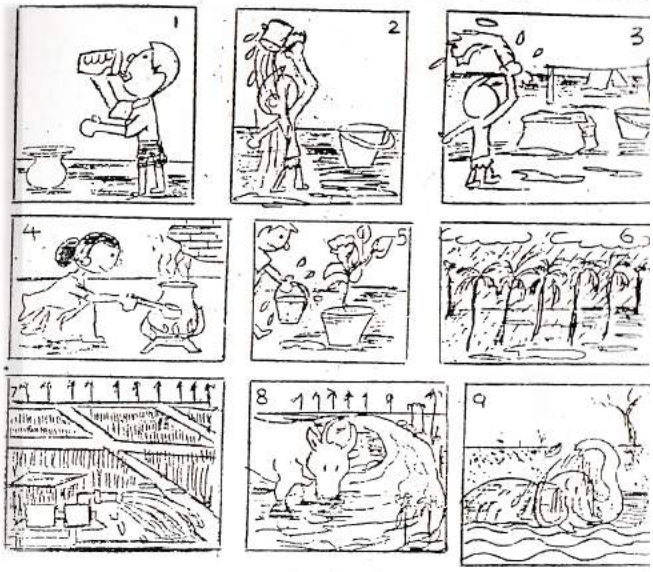
WHAT DO YOU THINK, ?
WILL HAPPEN ?
(Demonstrate)



WHAT DO YOU
THINK WILL HAPPEN?
(To ask them to)
explain

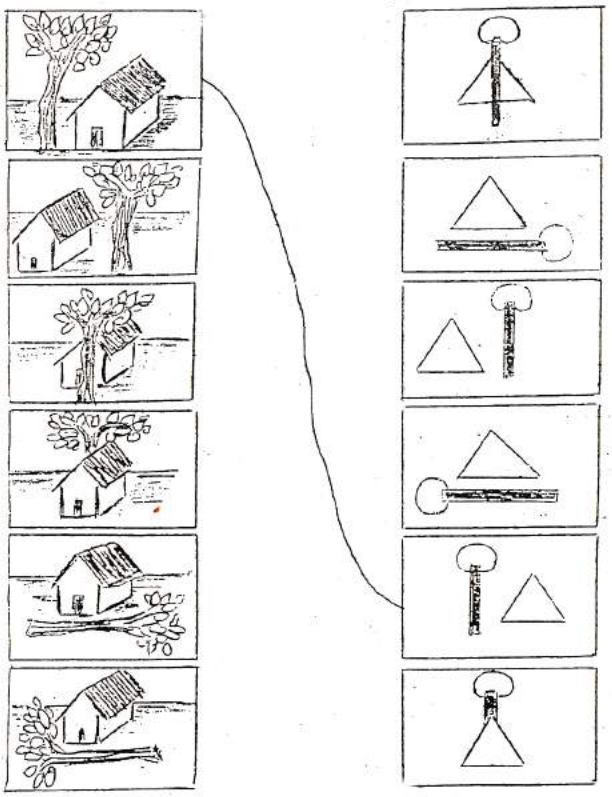
Pour a small quantity of water into a plate.
keep it in the sun.
Examine the plate after a while

What happens ?

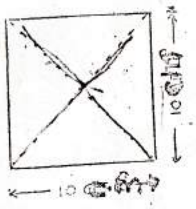


To discuss about the uses of water. Why do we need to drink water? What would happen if we didn't drink water? How do trees get their water? We pour water for plants but not for trees. Why? Why do we bathe? Do animals - cows, dogs, cats et bathe? Why? How do we water the fields; How is rain formed? ... etc. Questions such as these mu be raised and the encouraged to ask many more questions. To form clear, short sentences for each of the above pictures.

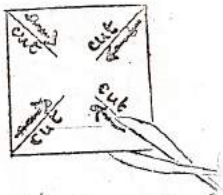
36 MATCH (An exercise for the intellect)



The children must do this exercise entirely by themselves. No help must be given.

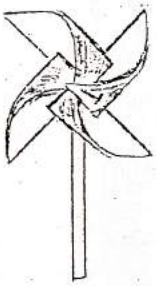


Take a square of sides 10 cm long



Cut along the corners towards centre as shown

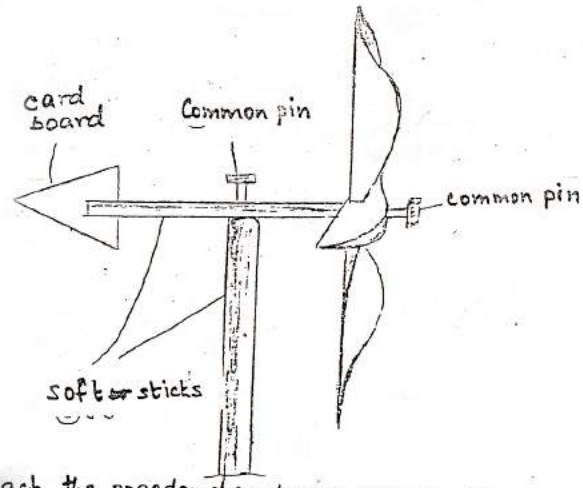
Fold one corner of each part and fix with a common pin



Attach this to a stick.

Blow over the paper, and check if it spins.

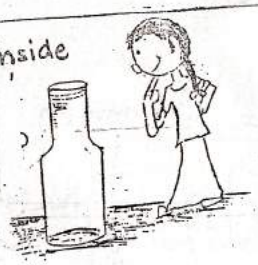
குழந்தைகள் ஒவ்வொருவரும் சிறுமாதிரியைச் செய்ய வேண்டும்



ttach the speedometer done on the opposite page another stick as in the above icture. Fix a Δ piece of rdboard (chart paper will do) the other end of the fan. horizontal stick must n easily and the triangular d point to the direction the wind.

40 WHAT IS INSIDE?

What is inside this bottle?

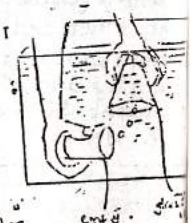


Take an empty bottle. Put it in a bucket of water - upside down. Now turn it up straight, slowly.

What happened? What was in the bottle?

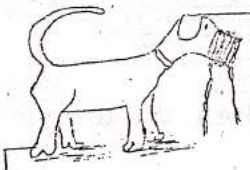
Demonstrate this experiment to the class. Fill a bucket with water. Fill a glass tumbler with water and put it into the water. Invert it.

Invert another glass tumbler into the bucket. Gradually straighten this glass tumbler such that the air bubbles from the empty tumbler enter the tumbler with water. Ask what & why this ha

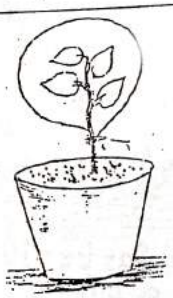


WHAT WILL HAPPEN?

WHAT WOULD HAPPEN IF YOU CLOSED YOUR MOUTH AND NOSE FIRMLY. WHY?



If a dog's nose was tied firmly with a thread what do you think would happen to the dog? WHY?

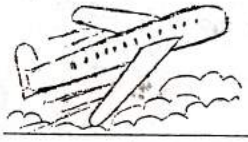


If a plant is covered with a plastic cover as in the picture. What do you think would happen to it? WHY?

DO AND SEE...

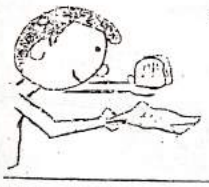
To clarify that all living things need air to breathe — live.

What will happen to him? WHY?



How does an aeroplane fly?

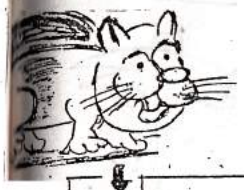
Why are sails put up on boats?

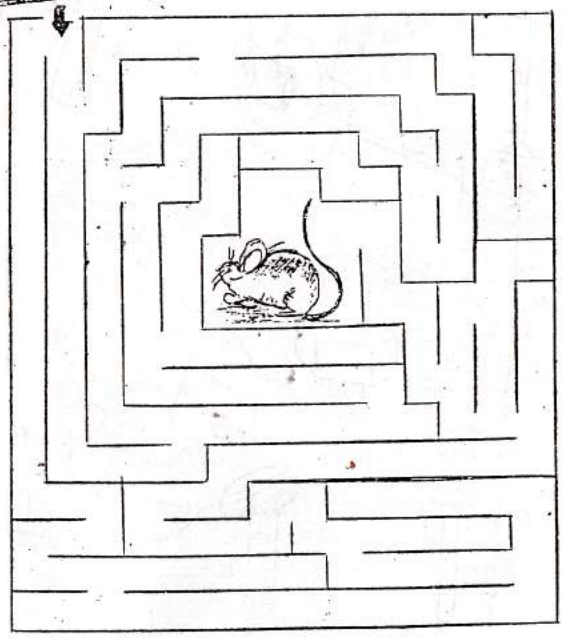


Which falls faster? A stone and a paper dropped together - which is faster?

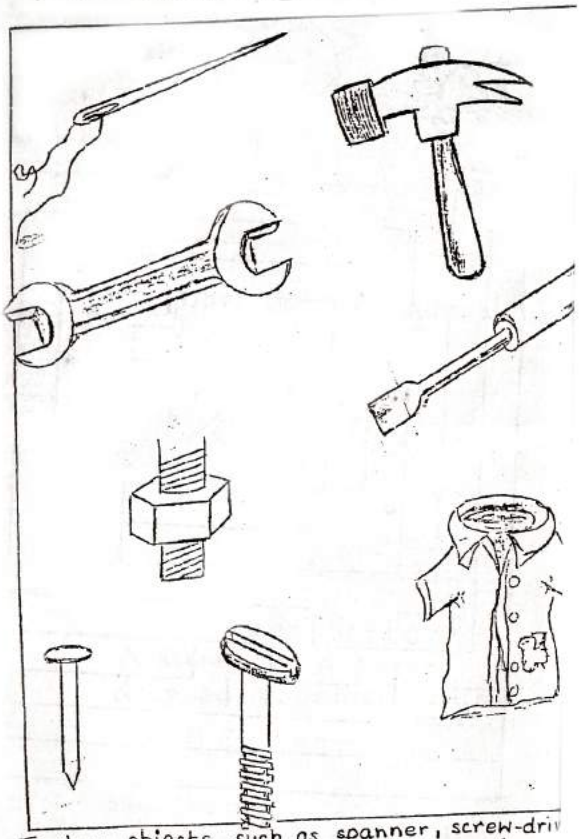
DO AND SEE .....

This exercise is mainly to provoke a child's natural curiosity. So they attempt to answer these questions and try to reason out their own answers.

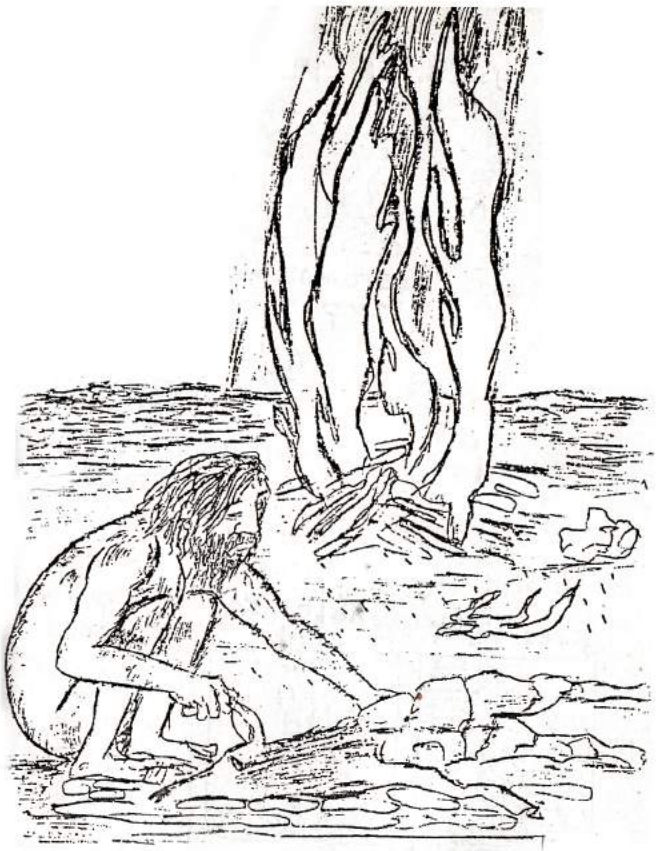




44 MATCH THE PAIRS

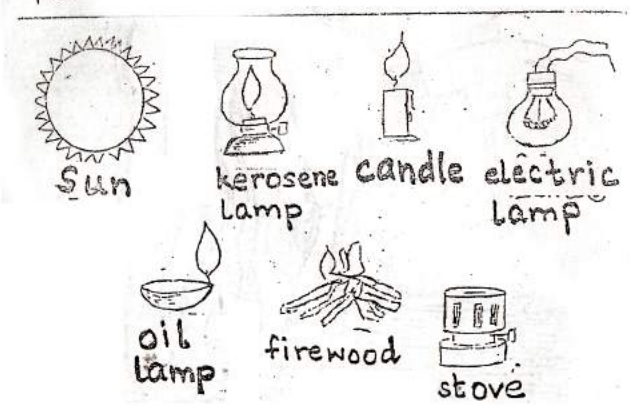


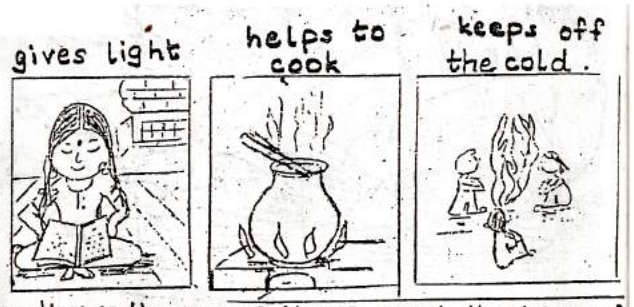
To show objects such as spanner, screw-driv
etc. and demonstrate how they are used.



FIRE

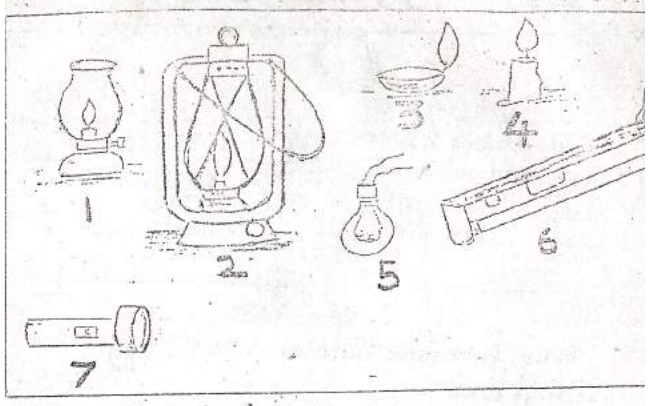
46 USES OF FIRE





To discuss the uses of fire. To match the pictures of the various kinds of fire with the uses listed below. To try and read the words. To say in co short sentences. "The sun gives light" "It helps to cook" "I

A FEW QUESTIONS



What forms of light do you use at home? (write only the numbers) .....

--- --- --- --- --- ---

Which forms of light is brightest? (Write the nos. in order of their brightness).

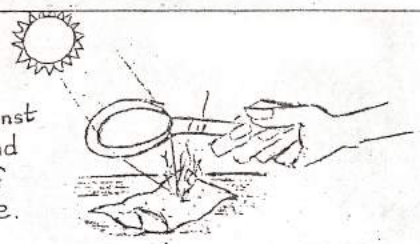
--- --- --- --- --- --- ---

Which form of light costs the most? (write numbers in order of their cost)

--- --- --- --- --- --- ---

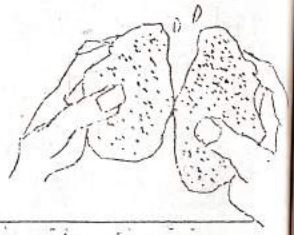
To learn the names of the different kinds of
To discuss details such as – how they burn, what they cost, how and when they are used etc. T show the many kinds of light and their part help understand how they function.

DO AND SEE



Hold a lens against the sunlight and make a piece of paper catch fire.

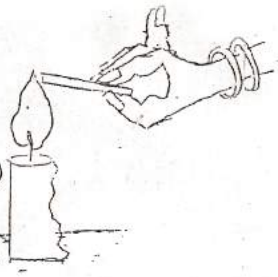
Pour kerosene into a mud lamp and Light the wick. Will it burn??
Do this and see - with your teacher's help.



Rub two stones against each other and see if you can see it spark.

To tell in story form how Man discovered the uses of Fire and then tried to make Fire. ~~To~~ All experiments connected with fire have to be done in front of the teacher.

WILL IT BURN ? ?



See if the objects given below will burn. If they do, mark (✓) if they don't, mark (x). Guess the results before putting any of them over a flame. (in front of your teacher).

Object	Guess	Result
match-stick	....	....
thread	....	....
hair	....	....
green Leaf	....	....
dried Leaf	....	....

Object	Guess	Result
plastic	....	....
rubber	....	....
glass	....	....
salt	....	....
oil	....	....
water	....	....

How does one see if salt, oil, water etc. burn. How can it be put over the flame. (Ask the children).

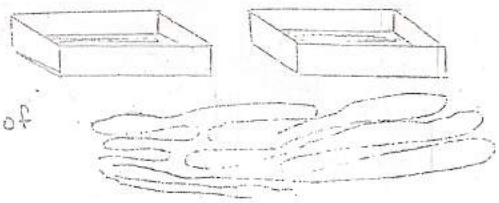
FIND THE PAIR

Discuss about these objects and tell, in story form the life-styles of those days and the present times

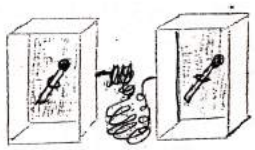
MAKING A TELEPHONE

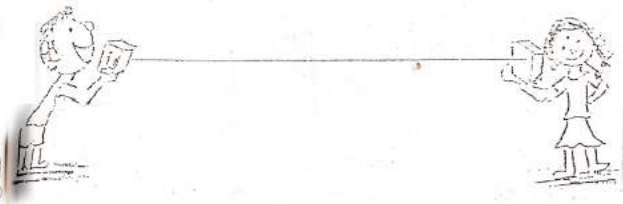
Take two empty match-boxes.

Take a long piece of thread.



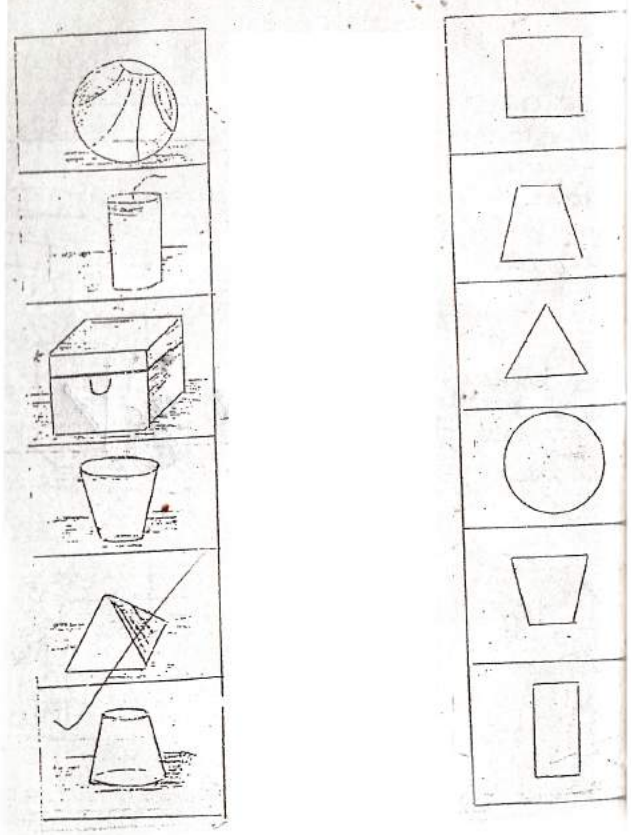
Make holes at the base of the boxes and fix the thread as shown





Allow the children to look at the pictures and make this on their own.

52 MATCH (SHAPES)



MAGNETS

Take a magnet

Check if the objects are attracted or repelled by the magnets. Guess and write it down before you do this experiment

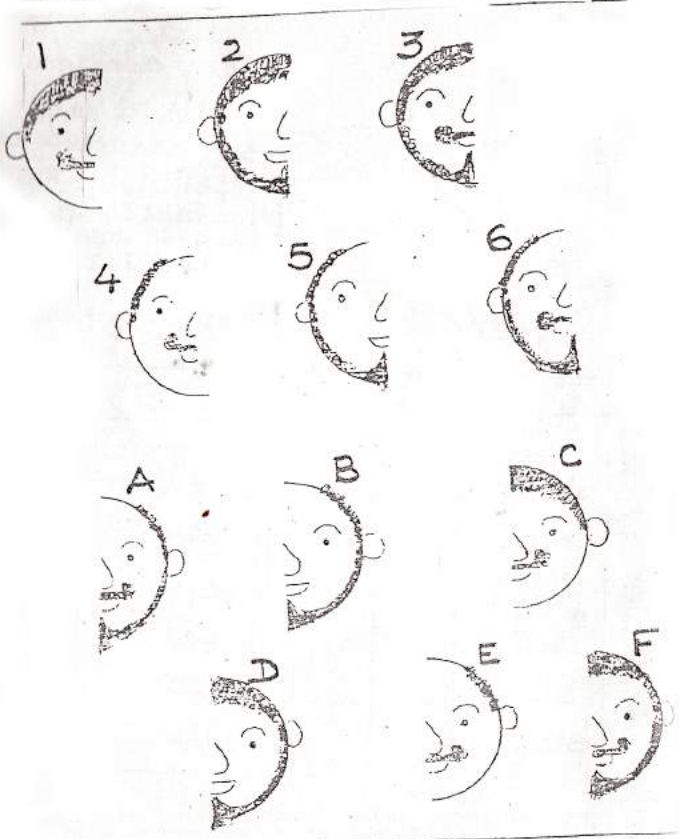
Attract (✓) Repel (x)

Object	Guess	Result
stone	.....	.....
nail	.....	.....
pencil	.....	.....
cloth	.....	.....
blade	.....	.....
plate	.....	.....

Object	Guess	Result
needle	.....	.....
match-stick	.....	.....
paper	.....	.....
tin	.....	.....
currency coin	.....	.....
glass	.....	.....

Help to read the words on their own. Write down their guess before doing the experiment is important. Children try to get these objects

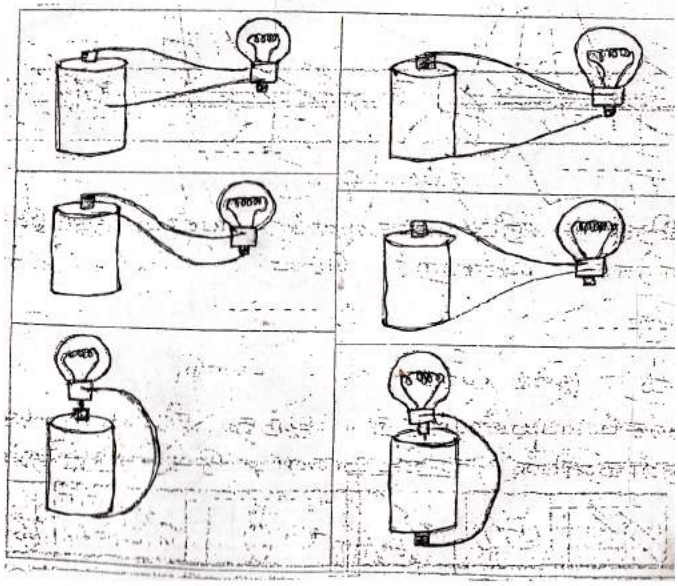
54 FIND THE OTHER HALF?



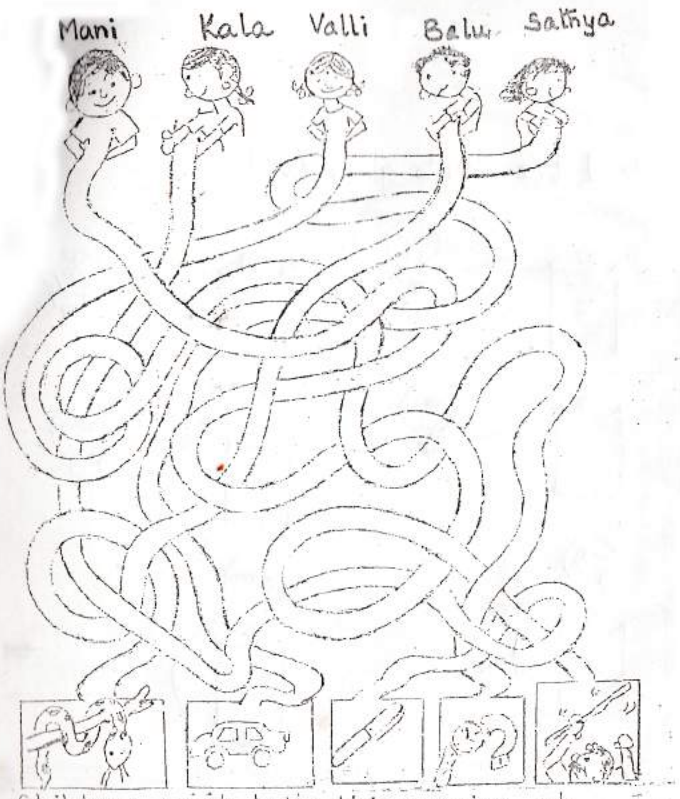
The first six pictures to be paired with the lower six pictures eg:- 1-C etc.

ELECTRICITY 5

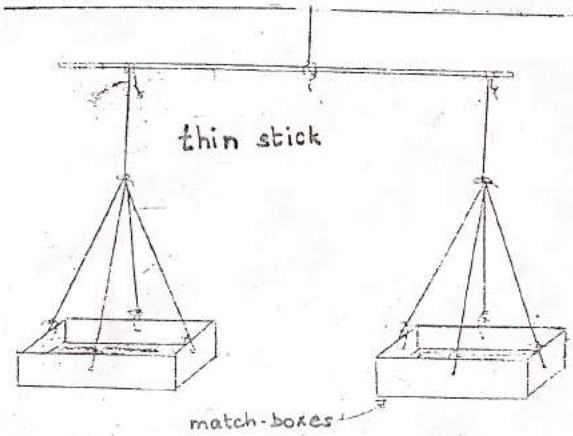
Will the bulb glow (✓)



WHAT DOES EACH ONE GET?



Children must do ~~the~~ this exercise only with their eyes. If its too difficult they may use a pencil to find the way.



Making use of two empty match-boxes make a set of scales as shown here.

ng the scales measure the above
hts of the above objects and then compare
weights.

five different objects and keep them in
ding order of their weights.